

REMARKS

Claims 1, 2 and 7 have been amended to broaden the claims.

In response to the rejection of claims 1-25 under 35 USC 112, first paragraph, alleging that "the determination of direction dependent at least at times on the video signals" was not described in the specification, applicant traverses the rejection because the use of video signals to determine direction is well supported in the specification.

In the specification at page 2, lines 8-9 "Computer vision algorithms are used to detect, locate, and track people in the field of view of a wide-angle, stationary video camera." Also, in the specification at page 2, lines 19-20 "this approach allows the video conferencing system to accurately track moving people regardless of whether they speak or not". Also, at page 3, lines 2-3 "a multimodal integration architecture system for processing said image signals and said audio signals to determine a direction of the audio source relative to a reference point". Thus in the invention herein, the determination of the direction of a speaker is dependent on the video signals at least when the speaker is not speaking.

In addition, the documents that are incorporated herein by reference include detailed discussion of determining the direction of an audio source depending on video signals. For example, in WO 99/60788 on page 8 "A moving speaker, such as one giving a presentation, can be tracked by tracking his image."

In response to the rejection of claims 1-3, 5-8, 10-25 under 35 USC 102(b), allegedly for being anticipated by US5686957 to Baker, the citation does not identically disclose every element of the claims.

More specifically, Baker does not suggest, "processing such image signals ... to determine the direction of the source relative to a reference point" as in claims 1 and 10 and 25. Also, Baker does not suggest, "processing the video signals ... to determine a direction to the speaker relative to a reference point" as in claim 16. All the other

rejected claims are dependent on claims 1, 10, 16 or 25 and are thus, allowable for at least the same reasons as those claims.

In response to the rejection of claim 4 under 35 USC 103(a) for allegedly being unpatentable over Baker, Baker does not suggest the elements of claim 4. Baker does not suggest "processing such image signals ... to determine the direction of the source relative to a reference point" as in claim 1 on which claim 4 depends. Also, Baker does not suggest, "an integrated housing ... incorporating the image pickup device, the audio pickup device, and the multimodal integration architecture system" as in claim 3 on which claim 4 depends. Baker teaches away from an integrated housing because in Baker at column 9, lines 15-20, the "invention is comprised of four microphones spaced apart which would be arranged concentrically about the lens and camera on a conference room table so that all the participants in the conference have audio access to the microphones for transmission of sound". It is necessary in Baker to space the microphones apart because the only method proposed by Baker to determine the direction to the speaker is at column 9, lines 29-32, "each microphone input would be sampled to determine which has the largest amplitude of signals or which one has signals, to determine the specific direction for steering the video camera". The apparatus disclosed by Baker would not work if it were integrated into a portable unit because then all the microphones would receive about the same amplitude.

In response to the rejection of claim 9 under 35 USC 103(a) for allegedly being unpatentable over Baker in view of US patent 5,778,082 to Chu, the combination does not suggest "processing such image signals ... to determine the direction of the source relative to a reference point" as in claim 1 on which claim 9 depends. The examiner's statement that "Baker differs from the claimed invention in not disclosing the use of an array of two microphones is clearly erroneous. The term "comprised" is used in claims to introduce an open list so that "comprised of an array of two microphones" clearly reads on any array of two or more microphones such as the array of 4 microphones of Baker.

The claims are definite and distinguished from the citations and
Applicant respectfully requests the allowance of all claims.

Respectfully submitted,

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